

REBUTTAL TESTIMONY

of

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Energy Division
Illinois Commerce Commission

Petition for Approval of Electric Energy Efficiency Plans

Commonwealth Edison Company

Docket No. 13-0495

November 12, 2013

1 **I. Witness Identification**

2 **Q. State your name and business address.**

3 A. My name is David Brightwell. My business address is Illinois Commerce
4 Commission, 527 East Capitol Avenue, Springfield, Illinois, 62701.

5 **Q. Are you the same David Brightwell who previously testified in this**
6 **proceeding?**

7 A. Yes.

8 **Q. What was the purpose of your rebuttal testimony?**

9 A. I respond to a recommendation involving demand reduction programs made by
10 Ms. Rebecca Devens in the Citizens Utility Board ("CUB")/City of Chicago (jointly
11 "CUB-City") direct testimony. I also respond to Ms. Devens and Natural
12 Resource Defense Council ("NRDC") witness Chris Neme about the inclusion of
13 non-participant spillover in net-to-gross ("NTG") ratio values.

14 **Q. What is CUB's recommendation regarding demand reduction?**

15 A. CUB-City recommends "that ComEd investigate potential demand response
16 programs that could meet the statutory requirements, especially those that relate
17 to AMI deployment, discuss these programs with the SAG, and include these
18 programs in a Revised Plan the Company submits to the Commission for
19 approval." (CUB/City Ex. 1.0, 24.)

20 **Q. What is your opinion of CUB's recommendation?**

21 A. I am concerned that the recommendation is not feasible. If the Commission
22 adopts CUB-City's recommendation, ComEd would be submitting a revised Plan
23 that includes Demand Response programs that were not reviewed and vetted as
24 a part of this proceeding. ComEd is proposing budgets that reach the statutory
25 spending limits. Including a Demand Response program as proposed by CUB-
26 City is not merely supplementing ComEd's portfolio with an additional program.
27 It requires funding to be diverted from other programs.

28 A review should consist of more than SAG members being consulted
29 about the feasibility and cost-effectiveness of proposed Demand Response
30 programs. A review should consist of the Commission making a determination
31 as to the value of any Demand Response programs in the context of any lost
32 energy savings that result from Demand Response replacing EE programs.

33 **Q. What is Ms. Rebecca Devens position regarding the inclusion of spillover**
34 **in NTG ratios?**

35 A. Ms. Devens supports ComEd's proposal. (CUB-City Ex. 1.0, 21.)
36 However, her reasons to support the proposal seem to mischaracterize ComEd's
37 proposal. She states that her reason for ComEd's proposal to be approved is
38 that estimates of savings achievement should be as accurate as possible and
39 that accurate NTG ratios include both estimates of spillover and free riders. Id.

40 **Q. How does Ms. Devens' reasoning mischaracterize ComEd's position?**

41 A. ComEd's proposal is not to make NTG estimates as accurate as possible.
42 ComEd proposes that anytime both participant and non-participant spillover are
43 not estimated, estimates of free riders would not be considered in the NTG ratio
44 value.

45 Excluding estimated free ridership whenever both participant and non-
46 participant spillover is not estimated does not imply that estimates of savings
47 achievement are as accurate as possible. As I stated in my direct testimony
48 estimating non-participant spillover is very difficult and costly. The likely result is
49 that ComEd's proposal is likely to lead to measuring gross savings for many if not
50 all programs.

51 **Q. Please provide an example.**

52 A. Consider ComEd's Appliance recycling program. ComEd anticipates
53 40,000 appliances being recycled in each year of Plan 3. (ComEd Ex. 1.0, 37)
54 In terms of both expenditures and savings, this is the second largest program in
55 ComEd's residential portfolio Id. at 26, 29. In spite of the significance of the
56 program to the overall portfolio savings, the number of customers participating in
57 the program is small relative to ComEd's total number of residential customers.
58 It would take a large sample to measure non-participant spillover. Large samples
59 are likely to be required to measure non-participant spillover for other programs
60 as well.

61 The recycling program operates by picking up a refrigerator, freezer
62 and/or room air conditioner from the customer in exchange for a payment. In the
63 PY4 evaluation, the evaluators did not attempt to estimate spillover because they
64 did not believe it was likely to be significant. Given that energy savings is
65 achieved by removing older devices rather than by incenting the purchase of
66 more efficient devices, there seems to be merit to the evaluator's assumption of
67 insignificant spillover.

68 The PY4 evaluations found free ridership rates of 18% to 28% for the
69 measures in the program. Under ComEd's proposal, the NTG ratio value would
70 equal 1 for each measure in the program rather than .72 to .82 unless the
71 evaluators attempted to measure participant and nonparticipant spillover.

72 Estimating non-participant spillover would be extremely difficult and costly.
73 With 40,000 assumed appliances removed and evaluators determining that 4%
74 of customers removed more than one appliance that means 36,480 unique
75 customers would use the program in a year. If nonparticipant spillover rates are
76 equal to free ridership rate, which is contrary to the evaluator's assumptions, the
77 spillover rate is up to 28%. Assuming that there is no participant spillover and
78 that the average savings from devices installed by non-participants equals
79 savings from appliances being recycled, that means about 10,214 customers
80 were affected by the program (28% of 36,480). ComEd has approximately 3.2
81 million residential customers. The customers being affected amount to about

0.32% or one customer out of every 313. Under these assumptions, it would require a survey with 845 respondents to find savings that was statistically significant with a 95% level of confidence¹. If the true spillover is 14%, the survey requires 1693 respondents. If the evaluators are correct in their assumption that spillover does not provide significant energy savings (say 1%), it would require a sample of 23,735 respondents to find statistically significant spillover. This would be extremely costly and similar evaluations would have to take place for every program. However, under ComEd's proposal, the alternative would be to apply a NTG ratio value equal to one any time it was not done.

Q. What is Mr. Neme's proposal?

A. Mr. Neme makes a distinction between spillover estimates and spillover factors. An estimate means that evaluators actually collected data and used a methodological approach to estimate the spillover percentages. A factor is not necessarily estimated. It can be a best guess reached by consensus rather than empirical methodology.

Q. Do you support Mr. Neme's proposal?

A. No. While I approve generally of the concept, I do not believe the application of the concept resolves issues that arose in the previous Plan period.

Q. Why not?

¹ Under the assumptions provided, the distribution is approximately binomial. Since it is generally assumed that spillover is greater than zero, a one-tailed test of statistical significance would be applied. The sample size N needed to determine 95% significance is $(1.645/p)^2 \cdot p \cdot (1-p)$. Where p is the portion of the population affected by the program.

101 A. Much of the disagreement in the last Plan Period revolved around what value
102 should be applied as a NTG ratio. The utilities, whose savings estimates are
103 affected, often argued for higher values and other parties including Staff often
104 argued for lower values. Staff's objective was to protect the interest of
105 ratepayers who are funding the programs. When estimated savings are
106 unreasonably high, a utility is credited with more savings than warranted and is
107 less likely to decrease the emphasis of or eliminate a program that is no longer
108 beneficial to ratepayers.

109 By adding a spillover factor that is negotiated, the disputes associated with
110 the past Plan are not resolved. The incentive of the utilities to find support for as
111 large a spillover estimate as possible still exists, and Staff's concern that any
112 proposed spillover estimate is cherry-picked still exists. Resources are required
113 to determine whether the methods used for external spillover estimates are
114 applicable to Illinois. Particularly, Illinois measures annual incremental savings.
115 Not all states have annual goals. If spillover is estimated over several years, it
116 would not be applicable to a utility in Illinois. In the event, that spillover estimates
117 are deemed in other states, there is the potential that the deemed values were
118 negotiated between stakeholders in that state. The nature of the negotiations is
119 unknown. The context of the negotiations potentially affects how reasonable the
120 deemed spillover estimates should be considered. Overall, the resources
121 devoted to these negotiations could be spent for better purposes.

122 **Q. What do you recommend?**

123 A. I continue to recommend that evaluators be required to consider spillover in the
124 course of their evaluations while being mindful of the likely magnitudes of
125 spillover and the costs associated to measure it. However, there is the potential
126 to resolve the conflict between receiving credit for as much savings as is
127 reasonable and protecting ratepayers from adverse consequences associated
128 with inflated savings estimates.

129 **Q. What is the alternative you propose in order to resolve this conflict?**

130 A. I stated in my direct testimony that non-participant spillover was next to
131 impossible to measure. To clarify, I think it is next to impossible to identify a
132 specific program's impact on non-participants. There are too many factors that
133 influence decisions. It is also extremely costly to try to separate the role of a
134 specific program. Much of non-participant spillover is an aggregate effect of
135 being bombarded with new information coming from numerous sources such as
136 information about tax credits for EE measures (which is an influence outside of
137 the utility Program), a friend or neighbor who installed an EE device (which may
138 or may not be a utility influence), a bill insert, a contractor trying to sell a more
139 expensive product, etc. To spend evaluation funds to determine how much the
140 HVAC program, the Appliance Recycling program or any other program caused
141 people who didn't participate in any of these programs to upgrade to EE

measures seems misdirected. Applying a negotiated non-participant factor also seems misdirected.

I propose that interested parties work with evaluators to study the feasibility of performing an annual, biannual, or even triennial non-participant spillover assessment across the portfolio. The objective is to examine the aggregate effect of the Company's portfolio on non-participant behavior rather than trying to measure the program-by-program effects. Measures of free ridership and participant spillover would be estimated to the extent that evaluators felt that it was practical given the evaluation budgets and other evaluation objectives. If parties and evaluators determine that a non-participant spillover study is practical, an evaluation of non participant spillover can be conducted at least once within the next EE Plan period.

Q. Has this approach been used elsewhere?

A. To the best of my knowledge it has not. If the Commission approves this proposal, it would most likely to be the first Commission to do so.

Q. What do you see as the advantages of your proposal?

A. The advantage is that a utility would receive credit for non-participant spillover, thus increasing the energy savings associated with a program. Ratepayers would benefit because non-participant spillover is no longer tied to a particular measure. It is instead tied to existence of the overall portfolio. By removing the link to a particular measure or program, removing a measure or

163 program with high free ridership and a low TRC value is less adverse to a utility
164 unless the utility truly believes the measure or program contributes significantly to
165 non-participant spillover. The detachment of non-participant spillover from the
166 measure or program actually improves the credibility of a utility's arguments to
167 keep a measure based on anticipated spillover.

168 **Q. Does this conclude your rebuttal testimony?**

169 A. Yes.